Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-11-28-66** **Date: 06-10-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
Agency	:	Sri.Harshith Raj L R No:286,Doddaballapura,Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-18
Sample ID No	:	2018-11-28-66 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	04-10-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

A.E.E

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.75	–
2	Finess by Air permeablity method (m^2/kg,Min)	281.4	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

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Authorized Signatory
Technical Manager

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 02-11-18

Lab ID	:	CP-2018-11-28-66
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
Agency	:	Sri.Harshith Raj L R No:286,Doddaballapura,Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-18
Sample ID No	:	2018-11-28-66 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	04-10-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.0N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.5N/mm^2	Not less than 37 N/mm^2
3	28 Days	57.5N/mm^2	Not less than 53 N/mm^2

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A.E

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2018-11-28-66 **Date: 06-10-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
Agency	:	Sri.Harshith Raj L R No:286,Doddaballapura,Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	03-10-18
Sample ID No	:	2018-11-28-66 /02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-10-18

A.E.E

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	242	242	1.6	98.4	90-100
3	20 mm	5437	5679	37.9	62.1	30-70
4	10 mm	4339	10018	66.8	33.2	10-35
5	4.75 mm	4649	14667	97.8	2.2	0-5
6	Pan	333	15000	100.0	0	---

AE

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-11-28-66** **Date: 06-10-18**

Sample ID No : 2018-11-28-66 /02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.3	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.20	–

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Technical Manager

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TEST REPORT ON COARSE AGGREGATES

Date: 06-10-18

Lab ID	:	CP-2018-11-28-66
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
Agency	:	Sri.Harshith Raj L R No:286,Doddaballapura,Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-18
Sample ID No	:	2018-11-28-66 /02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-10-18

A.E.E

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SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	240	240	4.8	95.2	90-100
3	10 mm	2567	2807	56.1	43.9	25-55
4	4.75 mm	2030	4837	96.7	3.3	0-10
5	Pan	163	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

ID : CP-2018-11-28-66 Date: 06-10-18

mple ID No : 2018-11-28-66 /02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.3	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.5	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.23	–
7	Aggregate crushing Value(%)	22.7	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	24.6	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:
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Format No: CP/TF/01

TEST REPORT OF FINE AGGREGATE

	:	CP-2018-11-28-66 **Date: 06-10-18**
r	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
	:	Yelahanka Sub Division, BBMP, Bangalore.
Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
cy	:	Sri.Harshith Raj L R No:286,Doddaballapura,Bangalore.
tomer's Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
arce of Sample	:	Sample supplied by Agency
ample Condition	:	Satisfactory
Date of Receipt	:	03-10-18
Sample ID No	:	2018-11-28-66 /03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	03-10-18
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	78	78	7.8	92.2	90-100	90-100	90-100	95-100
3	2.36 mm	65	143	14.3	85.7	60-95	75-100	85-100	95-100
4	1.18 mm	244	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	215	602	60.2	39.8	15-34	35-59	60-79	80-100
6	300 micron	178	780	78.0	22.0	5-20	8-30	12-40	15-50
7	150 micron	141	921	92.1	7.9	0-10	0-10	0-10	0-15
8	Pan	79	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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Certificate No : TC- 5548

TEST REPORT OF FINE AGGREGATE

Date: 06-10-18

Lab ID : CP-2018-11-28-66

Sample ID No : 2018-11-28-66 /03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.05	–
2	Specific Gravity	2.51	–
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Certificate No.: TC- 5548

CEMENT CONCRETE PRECAST CONCRETE BLOCKS FOR PAVING

Lab ID	:	CP-2018-11-27-62 13-10-18
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Construction of Anganavadi Compound in Ward No-01of Yelahanka sub Division.
Agency	:	Sri,Harshith Raj L R No:286,Doddaballapura,Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-19/W.O/000030/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-10-18
Sample ID No	:	2018-11-27-62/03
Sample Type/ Size	:	Precast concrete blocks for paving
Reference to BIS codes	:	IS 15658:2006
Date of test	:	08-10-18

1.Compressive Strength

Sl.No.	Dimension (mm)			Compressive Strength	Average
	L	B	T	(N/mm²)	(N/mm²)
1	197.22	159.88	60.99	42.5	43.1
2	198.48	159.64	60.32	43.8	
3	199.54	159.54	60.45	42.5	
4	197.68	159.22	60.72	43.5	
5	198.11	159.87	60.52	42.8	
6	198.18	160.02	60.23	43.4	
7	198.45	158.99	60.52	43.2	
8	197.22	159.22	60.35	42.8	

2. Water Absorption

Sl.No.	Wet Weight	Dry weight	Thickness	Water Absorption (%)	Average (%)
1	4.987	4.826	77.86	3.34	3.62
2	4.898	4.725	78.25	3.66	
3	4.988	4.803	78.45	3.85	

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